

REMARKS

Claims 1, 4 and 5 are pending in this Application. Claim 1 has been amended. Care has been exercised to avoid the introduction of new matter. Indeed, adequate descriptive support for the present Amendment should be apparent throughout the originally filed disclosure as, for example, page 10 of the written description of the specification, lines 2 through 17, and the paragraph bridging pages 21 and 22 thereof. Applicants submit that the present Amendment does not generate any new matter issue.

Claims 1, 4 and 5 were rejected under the first paragraph of 35 U.S.C. § 112 for lack of adequate descriptive support.

In the statement of the rejection the Examiner asserted that there is no adequate descriptive support in the specification for the limitation “exhibiting a small degree of warp after heat treatment.” This rejection is traversed.

Firstly, Applicants submit that one having ordinary skill in the art would have clearly recognized that the concept encompassed by claim 1 was originally disclosed. *In re Anderson*, 471 F.2d 1237, 176 USPQ 331 (CCPA 1973). This is because it has been repeatedly held that the written description does **not** require an Applicant to describe **precisely** the subject matter claimed. Rather, the disclosure should be sufficient to allow one having ordinary skill in the art to recognize that an Applicant invented what is being claimed. *Union Oil Co. of California v. Atlantic Richfield Co.*, 208 F.3d 989, 54 USPQ2d 1227 (Fed. Cir. 2000); *In re Gosteli*, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989).

At any rate, in order to expedite prosecution, claim 1 has been clarified by reciting that the aluminum nitride ceramic base material exhibits significantly reduced warp after charging into a

furnace with a setter made of permeable material and sintering, and exhibits reduced increment in wrap after heat treatment. Language similar to the language introduced in claim 1 is found throughout the written description of the specification, again noting page 10 of the written description of the specification, lines 2 through 17, and the paragraph bridging pages 21 and 22 thereof. Clearly, one having ordinary skill in the art would have recognized from the originally filed disclosure that Applicants invented the now claimed subject matter. *Union Oil Co. of California v. Atlantic Richfield Co.*, *supra*; *In re Gosteli*, *supra*.

Applicants, therefore, submit that the imposed rejection of claims 1, 4 and 5 under the first paragraph of 35 U.S.C. § 112 for lack of adequate descriptive support is not factually viable and, hence, solicit withdrawal thereof.

Claims 1, 4 and 5 were rejected under the second paragraph of 35 U.S.C. § 112.

In the statement of the rejection the Examiner asserted that the limitations regarding warp lack the requisite precision. This rejection is traversed for lack of the requisite legal basis.

Indefiniteness under the second paragraph of 35 U.S.C. § 112 is a **question of law**, not a litmus test. *Personalized Media Communications LLC v. U.S. International Trade Commission*, 161 F.3d 696, 48 USPQ2d 1880 (Fed. Cir. 1998); *Tillotson, Ltd v. Wlaboro Corp.*, 831 F.2d 1033, 4 USPQ2d 1450 (Fed. Cir. 1987); *Orthokinetics Inc. v. Safety Travel Chairs Inc.*, 806 F.2d 1565, 1 USPQ2d 1081 (Fed. Cir. 1986). Accordingly, in rejecting a claim under the second paragraph of 35 U.S.C. § 112, the Examiner must provide a basis in fact and/or cogent technical reasoning to support the ultimate legal conclusion that one having ordinary skill in the art, with the supporting specification in hand, would not be able to reasonably ascertain the scope of protection defined by a claim. *In re Okuzawa*, 537 F.2d 545, 190 USPQ 464 (CCPA 1976). Significantly, consistent

judicial precedents holds that **reasonable precision** in light of the particular subject matter involved is all that is required by the second paragraph of 35 U.S.C. § 112. *Zoltek Corp. v. United States*, 48 Fed. Cl. 240, 57 USPQ2d 1257 (Fed. Cl. 2000); *Miles Laboratories, Inc. v. Shandon, Inc.*, 997 F.2d 870, 27 USPQ2d 1123 (Fed. Cir. 1993); *North American Vaccine, Inc. v. American Cyanamid Co.*, 7 F.3d 1571, 28 USPQ2d 1333 (Fed. Cir. 1993); *U.S. v. Telectronics Inc.*, 857 F.2d 778, 8 USPQ2d 1217 (Fed. Cir. 1988); *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 USPQ (Fed. Cir. 1986). Applicants stress that claims must be interpreted as one having ordinary skill in the art would have interpreted the claims in light of and consistent with the supporting specification. *Zoltek Corp. v. United States*, *supra*; *Miles Laboratories, Inc. v. Shandon, Inc.* *supra*.

In applying the above legal tenets to the exigencies of the case, Applicants submit that the Examiner did not discharge the initial burden of establishing a *prima facie* basis to deny patentability to the claimed invention under the second paragraph of 35 U.S.C. § 112. Specifically, there is **no litmus test** triggering the ultimate legal conclusion of indefiniteness under the second paragraph of 35 U.S.C. § 112 because a relative expression appears in a claim. Merely because some claim language may not be precise does not automatically result in indefiniteness under the second paragraph of 35 U.S.C. § 112. *Seattle Box Co., Inc. v. Indus Crating & Parking, Inc.*, 731 F.2d 818, 826 [221 USPQ 568] (Fed. Cir. 1984). Indeed, the use of relative expressions has been sanctioned in numerous judicial decisions. See, for example, *Andrew Corp. v. Gabriel Electronics, Inc.*, 847 F.2d 819, 6 USPQ2d 2010 (Fed. Cir. 1988). **Precision should not be equated with quantification.** Rather, the degree of precision required is a function of the subject matter. *Miles Laboratories, Inc. v. Shandon, Inc.*, *supra*. In this respect, Applicants would note that the expression “essentially free of alkaline metal” did not render a claim indefinite. *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 218 USPQ 289 (Fed. Cir. 1983). Further, the expression “to

substantially increase the efficiency ...” was held to comply with the second paragraph 35 U.S.C. §112. *In re Mattison* 509 F.2d 563, 184 USPQ 44 (CCPA 1975). Moreover, the expression “substantially water-free” did not run a foul of the second paragraph of 35 U.S.C. § 112. *Biotech Biologische Naturverpackungen GmbH v. KG Biocorp* 58 USPQ2d 1737 (Fed. Cir. 2001).

In the present situation, one having ordinary skill in the art could not possibly have any difficulty understanding the scope of the limitations “exhibiting a significantly reduced warp after charging into a furnace with a setter made of permeable material and sintering, and exhibiting reduced increment in warp after heat treatment” as recited in independent claim 1. These characteristics of the claimed aluminum nitride ceramic base material are directly related to the distortion problem which is addressed and solved by the claimed invention. See, for example, page 3 of the written description of the specification, lines 10 et seq. As disclosed, Applicants have addressed and solved that warpage problem by strategically controlling the uniformity and distribution of the sintering agents. In this respect, Applicants would refer to Table 2 of the written description of the specification appearing at page 20 thereof, wherein the results of 29 experiments are set forth in which the warp after sintering and the increment in the warp after heat treatment are specified. As set forth on page 20 of the written description, lines 6 et seq., the data in Table 2 demonstrate the benefits of the present invention attendant upon employing a porous setter. The reported warp after sintering and increment in the warp after heat treatment of the examples representative of the present invention are significantly superior to the warp after sintering and increment in the warp after heat treatment of the comparative examples. One having ordinary skill in the art would easily understand from Table 2 what is meant by significantly reduced warp after sintering and reduced increment in warp after heat treatment based upon such comparative data.

On the other hand, the Examiner provided no facts upon which to conclude that one having ordinary skill in the art would somehow have been left out in the cold to understand the scope of the present invention, particularly when reasonably interpreted in light of and consistent with the written description of the specification, which is the judicial standard. *Miles Laboratories, Inc. v. Shandon, Inc. supra.*

Applicants, therefore, submit that the imposed rejection of claims 1, 4 and 5 under the second paragraph of 35 U.S.C. § 112 is not legally viable and, hence, solicit withdrawal thereof.

Claims 1, 4 and 5 were rejected under 35 U.S.C. § 102 for lack of novelty or, alternatively, under 35 U.S.C. § 103 for obviousness predicated upon Harris ‘261, Chiao, Yasumoto et al., Sugiura et al. and JP ‘265, each considered alone.

Claims 1, 4 and 5 were rejected under 35 U.S.C. § 102 for lack of novelty or, alternatively, under 35 U.S.C. § 103 for obviousness predicated upon Harris ‘377.

Each of the above rejections is traversed.

The pivotal issue underpinning each of the Examiner’s prior art rejections is whether the Examiner provided a sufficient **factual** basis upon which to predicate the determination of **inherency**. This is **no** easy task, because it is **not** disputed on this record that **none** of the applied references, taken singly or in combination, disclose or suggest that the problem of warp after sintering and reduced increment in warp after heat treatment are related in any way to the uniformity of sintering agents (a/b) as specifically recited in claim 1. Indeed, it is not apparent and the Examiner did not specifically identify wherein any of the applied references even recognizes the warpage problems addressed and solved by the claimed invention.

There also appears to be **no** dispute that **none** of the applied references taken singularly or in combination, hint at solving the warpage problem by uniformly distributing sintering agents throughout a sintered ceramic base material, let alone by employing a permeable or porous setter.

Given the above dearth of facts, it appears unreasonable for the Examiner to assert that any of the applied references inherently, i.e., **necessarily** discloses or suggests the claimed invention. Applicants would note that the uniformity of sintering agents and warp and distortion problems addressed and solved by the claimed invention are linked to the use of a permeable setter.

There is only one reference that discloses a setter, Chiao. But Chiao does not disclose whether the setter is porous or nonporous. Rejections predicated upon inherency cannot rely on uncertainties or happenstance. *Crown Operations International Ltd. v. Solutia Inc.*, 289 F.3d 1367, 62 USPQ2d 1917 (Fed. Cir. 2002); *Finnegan Corp. v. ITC*, 180 F.3d 1354, 51 USPQ2d 1001 (Fed. Cir. 1999); *In re Robertson*, 169 F.3d 743, 49 USPQ2d 1949 (Fed. Cir. 1999); *Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994). Indeed, it is legally erroneous to deny patentability to a claimed invention on the theory that one having ordinary skill in the art would have stumbled into the invention unknowingly. *Continental Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 20 USPQ2d 1746 (Fed. Cir. 1991).

Applicants would again stress that **none** of the applied references discloses the use of a porous setter as employed in the present invention, much less recognize the warpage problem addressed and solved by the claimed invention, let alone how to solve that warpage problem i.e., by controlling the uniformity of distribution of the sintering agents. These limitations are specified in claim 1.

It should, therefore, be apparent that the Examiner did not establish the requisite factual basis upon which to deny patentability to the claimed invention on the basis of inherency which

requires **certainty**, not speculation. *Continental Can Co. USA, Inc. v. Monsanto Co., supra.* Moreover, there is objective evidence in the specification which undermines the Examiner's inherency determination, and the Examiner has committed a legal error by ignoring such evidence.

Evidence in the specification.

The data in Table 2 **clearly demonstrate**, repeat **clearly demonstrate**, that the uniformity of sintering agents, warp after sintering and increment in warp after heat treatment **don't just happen by chance**. Rather, one having ordinary skill in the art must first set such objectives, e.g., put the uniformity of sintering agents in the crosshairs. As previously argued, the problems addressed and solved by the present invention and solution thereto, are not even on the radar screens of the applied references.

Rather, the Examiner is of the opinion that the general processes disclosed by the references, **without any control**, would automatically somehow yield results corresponding to those in the examples set forth in Table 2 while conspicuously avoiding the results representative of comparative examples. That is speculation. Applicants again stress that the data in Table 2 undermine the proposition that methods in **general**, such as those of the applied references, would **necessarily** produce the claimed aluminum nitride ceramic base material. *Continental Can Co. USA, Inc. v. Monsanto Co., supra.*

Summary.

The Examiner did not establish the requisite factual basis upon which to invoke the doctrine of inherency. Moreover, the specification provides ample evidence to scotch any determination of inherency which requires **certainty**. *Continental Can Co. USA, Inc. v. Monsanto Co., supra.*

Indeed, none of the applied references discloses the notion of controlling the uniformity of the distribution of the sintering agents, let alone recognizes that such uniformity of sintering agents impacts warpage. These undisputed facts undermine the Examiner's attempt to invoke the doctrine of inherency.

Moreover, there is no apparent factual basis upon which to predicate the conclusion that one having ordinary skill in the art would have been realistically motivated to manipulate the methods of any of the applied references in any attempt to arrive at the claimed invention. *Ecolochem Inc. v. Southern California Edison, Co.*, 227 F.3d 1361, 56 USPQ2d 1065 (Fed. Cir. 2000). The only notion of arriving at the claimed invention is found in Applicants' disclosure. But Applicants' disclosure is forbidden territory upon which the Examiner may excavate for the requisite motivational element. *Panduit Corp. v. Dennison Mfg. Co.*, 774 F.2d 1082, 227 USPQ 337 (Fed. Cir. 1985).

Applicants, therefore, submit that the imposed rejections of claims 1, 4 and 5 under 35 U.S.C. § 102 for lack of novelty or, alternatively, under 35 U.S.C. § 103 for obviousness predicated upon Harris '261, Chiao, Yasumoto et al., Sugiura et al. and JP '265; and the imposed rejection of claims 1, 4 and 5 under 35 U.S.C. § 102 for lack of novelty, or alternatively, under 35 U.S.C. § 103 for obviousness predicated upon Harris '377 are not factually or legally viable and, hence, solicit withdrawal thereof.


Based upon the foregoing it should be apparent that the imposed rejections have been overcome and that all pending claims are in condition for immediate allowance. Favorable consideration is, therefore, respectfully solicited.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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